

Note by Mr. Hind, on the Radiant Point of the Meteors, observed in 1872, November 27.

(From a Letter to the Astronomer Royal.)

Mr. Barber, of Spondon, Derby, a very competent observer, fixed the radiant of the meteor shower on November 27, in R.A. 1^h 44^m and N.P.D. 46°. I find meteors moving in the orbit of Biela's Comet (using the elements at the last perturbed epoch 1866), would radiate from R.A. 1^h 41^m, N.P.D. 48°, which appears a marvellously close agreement.

I find the following distances of the Comet from the Earth's orbit at the descending node, which is passed about a month before perihelion, in various years. + indicates that the Comet crossed the plane of the ecliptic outside the Earth's path, and — within it:—

1772	—0°06545	Hubbard.	
1806	+0°01321	„	
1826	+0°00892	„	
1832	+0°000866	Baranowski.	
1839	—0°000089	Santini.	
1846	—0°01680	Hubbard	} Mean for two nuclei.
1852	—0°01130	„	
1859	+0°00567	Michez.	
1866	+0°01295	„	

There were showers of meteors when the Earth passed this node in Dec. 3, 1798, and 1838.

Dec. 3, 1872.

Future Solar Eclipses. By J. Maguire, Esq.

There can be no doubt that Hallaschka has made a great mistake in his treatment of the eclipse of the 28th May, 1900. Upon reading the Rev. S. S. Johnson's paper in the last Number of the *Monthly Notices*, in which he states his belief that this eclipse will be total in the south of Spain, I referred to Hallaschka's map, and found that he described it as annular. Turning to p. 99 I extract these items from the Elements:—

Moon's horizontal semi-diameter	15' 40".8
Sun's „ „	16 14'.5!

Both these are incorrect. The Moon's semi-diameter is about 10" greater than the Sun's. The eclipse will, therefore, be total.

In his long search for the next total solar eclipse visible in London, Mr. Johnson has discovered that on the 14th June, 2151,

the central line of such an eclipse will pass to the north of London, London being well within the southern limit of totality.

I am rather inclined to dispute the accuracy of this conclusion and to place the line to the north of Norwich. As, however, the elements which I have used in the computation are not of a sufficiently reliable character, I must leave the decision of the point, at present, an open question.

Norwich, 6 Nov. 1872.

On the Zodiacal Light. By V. Fasel.

Inclosed, I beg leave to transmit to you, to be submitted to the Astronomical Society, the following observations on the interesting phenomenon, the Zodiacal Light, witnessed here by me in the early part of the year.

On the evening of the 28th February last, at 7^h 30^m L.M.T. I had an opportunity of observing a faint, but very distinct, white light, in the south-west part of the heavens, which, from its position and form, I concluded to be the Zodiacal Light. It exhibited, though with a solution of continuity in the vertex, the figure of an inclined cone whose axis, if produced, would have passed to the right of the *Pleiades*. The boundaries of the light were not well defined, especially in the southern edge. A line drawn from about 3° north of ϵ *Arietis*, passing through γ *Arietis*, and within 2° north of η *Piscium*, will indicate the upper or northern edge. The lower or southern edge, though *very* faint, will be fairly pointed out by a line drawn from about τ and δ *Arietis*, but south of them, passing between λ and μ , and very near to ν *Ceti*, and involving α *Piscium*. The contour of the apex, owing to the faintness of the light, could not be traced, but near the axis and downward to the horizon the light grew brighter. The sky was clear, the state of the atmosphere calm, and the absence of the Moon and clouds permitted the interesting display to be comfortably examined.

On the next night, 29th February, at 8^h L.M.T., the Zodiacal Light was again visible, but with considerably less brilliancy than the previous day; nothing was sufficiently well defined to allow a fair observation in the details of the phenomenon.

On March 3rd, at 8^h 30^m P.M., the Zodiacal Light was more conspicuous and brighter than on the two previous occasions. A line drawn from about 5° north of δ and through γ *Arietis*, passing within about 2° north of η *Piscium* downward to the horizon, will indicate the northern edge; and a line from about 2° south of δ *Arietis*, passing very near to ν *Ceti* and downward involving α *Piscium*, will show the southern edge which was much shaded off. The sky was clear and cloudless, and the absence of the Moon was most favourable to a better view of the phenomenon.

On the following night, March 4th, at 7^h 35^m P.M. L.M.T., the